Some testable predictions of the World Soul-VSM metamodel

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Updated Januari, 17, with additional hypotheses

Abstract

The first page introduces the World Soul–VSM metamodel as an integrative framework for developmental processes, grounded in wisdom traditions, Arthur Young's work, and Stafford Beer's Viable System Model (VSM). After adapting elements of Young's theory, the author shows that these sources can be coherently integrated, leading to the central question of whether the metamodel yields empirically testable predictions. Five such predictions are highlighted: (1) specific links between phases in child development and the differentiation of VSM subsystems (including a predicted cognitive leap around age seven), (2) the interpretation of current technocratic society as a stage-5 phenomenon and the possibility of a stage-6 eco-cooperative society emerging within roughly 50 years, (3) the inevitability of societal and ecological collapse once critical ecological boundaries are exceeded, (4) the existence of approximately 250-year civilizational cycles with an impending shift of the dominant center of power toward the Far East around 2026, and (5) the testability of these claims through empirical research programs, for example by relating Loevinger's ego development stages to internal VSM-like regulatory architectures.
Additional hypotheses (topdown) have been added (jan, 17, 2026). Some musings about bottom-up influences have been added as well.

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Introduction: testable predictions of the World Soul–VSM metamodel

Originally, the wish to develop a metamodel for developmental processes arose from the understanding that the wisdom traditions had much to offer for a solid worldview, based on facts, experiences and insights. When the work of Arthur Young was encountered, it became clear that there was a possibility to incorporate these insights into a meta-system that had the potential to characterize, in a global sense, all kinds of developmental processes. After further study, it turned out that some facets of Young's work needed to be modified, after which a linkage with the wisdom traditions became relatively easy. Quite soon thereafter, Stafford Beer's VSM could also be connected to the metamodel[1].

Examples of developmental predictions (child, humanity, ecology, civilizational cycles)

The question then became: can the metamodel make predictions that can be tested? The answer is yes, it can, even in this early stage of the model. In the research proposal below (appendix A), a design is presented for a study of the cybernetic structure and development in Loevinger's ego development stages.

There are more possible tests. For example, the metamodel predicts for the development of the (average) child that the phases it goes through are linked to the development of the VSM subsystems. Around the 7th year, for instance, cognitive development will show a leap (S3 begins to differentiate).

Other predictions concern the development of humanity as a whole: the current technocratic society is a stage-5 phenomenon[2]. Stage 6 is a possibility that can be realized: an ecologically responsible society and economy in which cooperation predominates. This stage may become visible within 50 years[3], provided we survive the current tensions and chaos. Related to this is the insight from the Fourfold Logic series, that there a number of ecological boundaries that cannot be transgressed infinitely. Collapse of society and ecosystem(s) are sure to follow. This is an observable phenomenon. Topdown led Capitalism (and Communism) are bound to fail: the former because of its built-in rent seeking and capital accumulation at the top, and its debt-based structure where money is created out of nothing and debts must grow to keep the system alive: these are claims on future production and resources, which are finite; the latter because of the lack of feedback mechanisms from bottom up to top. So, that's prediction number five.

Another prediction has also to with cycles. From the esoteric literature, it is known that there is a cycle of about 250 years, where the dominant center of civilization will shift from East to West to East again, around the globe. This does not mean that the other centers will collapse, but some shift of power will (gradually) occur. This 250 year period may be part of four 250 year cycles which make a 1,000 year cycle. Oswald Spengler (*The Decline of the West*) comes to mind here. The prediction is that within a couple of decades the dominant center will be in the Far East. The rise in power of the BRICS countries is gaining momentum, as we speak. We will soon see whether this continues. In today's global world, the pattern might change. Who knows? Interesting fact: the United States official "birth date" is juli, 4th, 1776. Add 250 years to this, and we get: juli, 2026! This is very soon. The period of 250 years is not an exact number, but points to a shift in dominance, as said.

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1 See The World Soul and Foci part three VSM and cybernetics

2 See my article on the World Soul, part four. Especially the section on Spiral Dynamics and the Orange meme.

3 G. de Purucker mentions that the next epoch of humanity will begin, when people learn to cooperate. He refers to certain cosmic cycles (without specifying exactly how he calculates with these cycles). His estimation is that this century will see such a beginning of true cooperation. The possibility is always there, if humanity chooses wisely.

So, here we already have six predictions that can be tested and/or observed!

Three top-down formulated hypotheses that are testable

In addition to the previous predictions, we can formulate some top-down, testable hypotheses.

For example: sick organizations lead to sick employees. In cybernetics and systems theory (such as Stafford Beer's VSM) the interaction between levels is always *bidirectional*. The idea to reason top-down ("Sick organizations lead to sick employees") is in fact the core of how social hypnosis[4] (via propaganda) and the "Bully agent" work.

In the meta-model, top-down causality (also called downward causation) is crucial. It explains how the "field conditions" of a higher holon (such as an organization or society) literally force the lower holons (the individual and the cell) into a certain form or disease pattern.

In cybernetic terms: if the reference value set by S5 of the collective is corrupt, every individual who is part of that system will receive feedback signals that undermine their own homeostasis.

Here are three specific, testable top-down hypotheses:

1. **The "Normative Erosion" Hypothesis (Social to Psychological)**

Thesis: A defect in the second layer (Norms/Boundaries) of an organization forces individuals to give up their own moral integrity (psychological layer 2) in order to remain viable within that system.

Defective norms and boundaries within organizations can erode employees' own moral integrity over time. Research on ethical climate, value congruence, and moral injury shows that when rules are applied inconsistently or subordinated to short-term gain, people are pressured to act against their values in order to remain viable in the system. The "Normative Erosion" hypothesis formalizes this dynamic by linking a flawed social Layer 2 (organizational norms/boundaries) to a gradual weakening of psychological Layer 2 (the inner moral compass).[pmc.ncbi.nlm.nih]

Ethical climate studies find that climates emphasizing self-interest and instrumental outcomes foster moral disengagement and normalize rule-bending, whereas principled or benevolent climates support ethical behavior and prosocial conduct. Work on value congruence shows that misalignment between personal and organizational values predicts strain, disengagement, and a readiness either to leave or to adjust one's standards to fit the environment. Emerging discussions of moral injury at work describe employees who, under sustained organizational pressure, experience betrayal of their professional and moral commitments, with accompanying distress and a sense that their moral identity has been compromised.[scholar.utc]

The Normative Erosion hypothesis proposes a specific, testable pathway: in organizations where formal rules are enforced selectively or overridden by short-term profit motives, employees will, within 6–12 months, show increased moral cognitive dissonance and a measurable weakening of their inner moral compass. This can be examined by comparing organizations with high versus low integrity scores—derived from audits of rule enforcement, independence of compliance functions, and documented conflicts between ethics and profit—and tracking employees over time. Repeated measures of moral dissonance or moral injury, moral disengagement, and personal value hierarchies would reveal whether low-integrity environments produce a systematic shift from principled to more instrumental value priorities.[corporateknights]

Framed in this way, normative failure is not just a governance problem but a mechanism of psychological reshaping: a defective organizational Layer 2 steadily pushes people to abandon or

4 See my latest article on Archetypes in the Field – Mother, Leader, Bully

mute their own ethical boundaries in order to survive. The hypothesis therefore invites both empirical investigation and practical reflection on how restoring credible, consistently enforced norms could protect not only an organization's legitimacy but also the moral integrity of those who work within it.[onlinelibrary.wiley]

2. **The "Biological Investment" Hypothesis (Organization to Cell)**

Thesis: When an organization no longer aligns its Strategy (Layer 3) with the human Purpose (Layer 1), the biological Layer 2 (cell membrane/immune system) of the employee is sacrificed for the survival of the organization.

Testable prediction: Employees in "toxic" organizations (where the S3/S4 balance is disturbed) show a measurable decrease in the integrity of their physical barriers (e.g., increased intestinal permeability or a weakened blood-brain barrier) compared to employees in healthy systems, corrected for lifestyle.

Chronic psychosocial stress in organizations is increasingly recognized as a biological as well as a psychological burden. Research shows that sustained stress can disrupt key physical barrier systems, especially the intestinal barrier and the blood–brain barrier (BBB), leading to increased permeability, immune activation, and systemic inflammation. These processes are measurable with specific biomarkers, making it possible to empirically link organizational conditions to biological integrity.[pmc.ncbi.nlm.nih]

Studies in humans and animals indicate that repetitive social and emotional stressors weaken gut barrier function, increasing intestinal permeability and facilitating bacterial translocation into the bloodstream. Elevated levels of plasma markers such as zonulin, intestinal fatty acid–binding protein (I-FABP), lipopolysaccharide (LPS), and related inflammatory mediators have been observed in individuals with high stress, anxiety, or depressive symptoms compared to healthy controls, suggesting compromised gut integrity. Parallel work connects chronic stress and mood disorders to alterations in BBB structure and function, including changes in tight junction proteins and vascular signaling that can increase BBB leakiness in emotion-related brain regions. [frontiersin]

These findings provide a biological backdrop for the "Biological Investment" hypothesis: when an organization persistently misaligns its strategy (Layer 3) with the human purpose and values of its people (Layer 1), the employee's biological Layer 2 (protective barriers such as gut and BBB) is gradually "spent" in order to maintain the functioning and survival of the organization. In this view, organizational toxicity—characterized by chronic misalignment, low autonomy, poor feedback loops, and unsafe social dynamics—acts as a long-term stressor that drives barrier breakdown and inflammation. The hypothesis is conceptually consistent with contemporary models of the stress–gut–brain axis, which position barriers and inflammation as central mediators between psychosocial load and mental and physical illness.[pmc.ncbi.nlm.nih]

Empirically, however, the specific link between an organization's "cybernetic health" and employees' barrier integrity has not yet been tested. Existing studies focus on clinical or experimental stress paradigms rather than on measurable aspects of organizational design, governance, and learning capacity. Moreover, commonly used biomarkers such as zonulin are under debate: several analyses highlight significant limitations in its specificity and assay validity, cautioning against its use as a standalone indicator of intestinal or BBB permeability. Current best practice points toward multi-marker, multi-method assessment, combining functional tests (e.g., sugar permeability assays for the gut) with panels of blood biomarkers and, where feasible, imaging-based or cerebrospinal fluid–based BBB measures.[pmc.ncbi.nlm.nih]

Against this backdrop, the "Biological Investment" hypothesis suggests a concrete research agenda. First, organizational health must be operationalized in cybernetic terms: the quality of feedback

loops, the balance between strategic control (S3) and environmental learning/adaptation (S4), and the degree of alignment between organizational strategy and the lived purpose of employees. Second, employees from organizations with differing cybernetic profiles—ranging from highly aligned and adaptive to rigid and toxic—should be systematically compared on validated measures of intestinal and BBB integrity, while rigorously controlling for lifestyle factors such as diet, sleep, physical activity, substance use, and body mass index. Third, longitudinal designs following organizational transformations would allow examination of whether improvements in governance, alignment, and psychological safety are accompanied by measurable restoration of barrier function and reductions in inflammatory load.[pmc.ncbi.nlm.nih]

In summary, current evidence strongly supports the general mechanism—chronic psychosocial stress impairs physical barrier systems and promotes systemic inflammation—but has not yet integrated organizational cybernetics into this picture. The "Biological Investment" hypothesis therefore does not claim an established fact; it offers a theoretically grounded, biologically plausible, and empirically testable model of how organizations might literally be built, in part, from the sacrificed barrier integrity of their members.[nature]

3. **The "Archetypal Takeover" Hypothesis (Field to Behavior)**

Thesis: A societal field dominated by the "Bully attractor" (a pathological Layer 1) reprograms the Strategy (Layer 3) of individuals towards competition and fear, regardless of their original intentions.

Testable prediction: In a tense societal climate (e.g., during an internal crisis), individuals who normally score as "prosocial" will, in simulations, more often choose "egoistic/competitive" strategies once they are exposed to the media frames (Layer 4) of that crisis.

Measurement method: Use game-theoretic experiments (such as the Prisoner's Dilemma) and manipulate the "environmental information" (the field) to see how quickly the individual strategy flips. For an *external* threat, such as a war that is started by another country, internal cohesion will rise.

Note: top-down hypotheses are essential here, because they demonstrate that the "Bully" is often not a person, but a *systemic* property.

A growing body of behavioral research supports the core intuition of the "Archetypal Takeover" hypothesis: when a social field becomes saturated with threat, competition, and hostile framing, even normally prosocial individuals shift towards more self-protective and competitive strategies. This shift is mediated not only by personal traits but also by the information environment, norms, and expectations that act as a systemic "bully attractor."

Concept in plain language

In this hypothesis, a **"Bully attractor"** is not just a bad leader or a few aggressive individuals, but a pathological pattern in the shared Layer 1 (deep motives, fears, and narratives of a society). When this attractor dominates the field:

- Individuals' Layer 3 (strategy) is reoriented towards competition, control, and fear-based decision-making.
- This happens even to people whose baseline orientation is cooperative or prosocial, because the field makes cooperation feel unsafe or naive.

- Media frames (Layer 4) are the main carriers of this field: they amplify threat, highlight winners and losers, and normalize competitive or exclusionary scripts.

The key claim is that "the Bully" is often not a person but a systemic property of the shared environment. A tense social climate during internal crises (economic collapse, polarization, institutional distrust) can therefore "reprogram" behavior from the outside in.

Testable prediction and experimental design

The prediction is that in a tense societal climate, normally prosocial individuals will adopt more egoistic strategies in simulated interactions once exposed to crisis-framed information. This is well suited to game-theoretic and experimental methods:

- **Participant selection**
    - Pre-screen participants with validated scales for prosocial vs self-oriented value patterns (e.g., social value orientation, empathy, or prosociality scales).
    - Select a group who clearly score as prosocial under neutral conditions.
- **Field manipulation (Layer 4 frames)**
    - Randomly assign participants to different informational environments before they play games:
        - Crisis-threat frame: media-like content emphasizing internal danger, scarcity, betrayal, and zero-sum conflict ("everyone is out for themselves").
        - Neutral frame: informationally rich but emotionally neutral content.
        - External threat frame: content emphasizing an outside enemy and the need for internal cohesion and mutual support.
    - These frames should be realistic, using news-style texts, headlines, or short video clips.
- **Game-theoretic measures (Layer 3 strategies)**
    - Use standardized games such as the Prisoner's Dilemma, Public Goods Game, or Trust Game.
    - Record choices as **cooperative/prosocial** vs **egoistic/competitive**.
    - Optionally vary payoff structures to test whether the effect of the field persists when cooperation is slightly risky.
- **Key outcomes**
    - In the internal crisis / bully-field condition, prosocial participants should show:
        - Higher rates of defection in the Prisoner's Dilemma.
        - Lower contributions in Public Goods Games.
        - Reduced trust and reduced reciprocity in Trust Games.
    - In the external threat condition, cooperation and in-group cohesion are expected to rise relative to the internal crisis frame, as the field now rewards unity rather than internal competition.

From behavior to “Archetypal Takeover”

Framed in the fourfold logic, layered language, this allows the following interpretation:

- Layer 4 (media field) translates a pathological Layer 1 (collective anxieties, bully narratives, friend–enemy distinctions) into concrete signals about “how the world works.”
- Layer 3 (strategy) in individuals adapts to these signals:
    - Under internal crisis frames, the safe strategy appears to be defensive, mistrustful, and competitive.
    - Under external threat frames, the safe strategy appears to be in-group solidarity and cooperation.
- The “takeover” occurs when these external scripts override individuals’ original intentions and self-concepts, making them act in ways that contradict their declared values.

Crucially, this provides a top-down perspective: instead of pathologizing individuals, it demonstrates how a bullying field can inhabit institutions, media, and collective narratives, and then propagate through them into everyday micro-behavior.

Why this matters

- It offers a mechanism for how cultures can drift towards authoritarianism, polarization, or pervasive mistrust without requiring a sudden change in individual character.
- It suggests that shifting the field (Layer 4 narratives, metaphors, and frames) can be at least as important as targeting individual attitudes when attempting to restore prosocial behavior.
- It reframes “the Bully” from a personal moral failure into a systemic pattern that can be diagnosed, measured, and potentially redesigned through changes in information ecology, institutional rules, and public discourse.

The “Archetypal Takeover” idea thus connects a layered systems model (field → strategy → behavior) with concrete, falsifiable predictions using well-established experimental tools.

Nuancing individual variation. This hypothesis describes a field tendency rather than a uniform behavioral pattern across all individuals. In a field dominated by a Bully attractor, the average strategy of normally prosocial people shifts toward more defensive and competitive choices, because cooperation subjectively becomes less safe and less rewarded. This does not exclude the possibility that some individuals resist, blow the whistle, or organize against the Bully field; it does imply that such counter-movement typically carries higher psychological and material costs, so that many others opt for lying low or conforming.

Musings on bottom-up testable hypotheses

The four layers in the meta-model can be aligned as follows:

Layer / Function	Cell (Biological)	Individual (Psychological)	Organization	Society	Ecosystem
1. Purpose / Intention	Homeostasis, survival, and reproduction.	Life goals, meaning-making, and moral intentions.	Mission, vision, and raison d'être.	Collective values and civilizational ideals.	Ecosystem integrity and resilience.
2. Norms / Boundaries	Cell membrane, receptors, and DNA regulation.	Inner norms, conscience, and role perceptions.	Rules, procedures, and cultural codes.	Legislation, institutions, and rights/duties.	Physical boundaries, nutrient cycles, and climate.
3. Strategy / Planning	Signaling pathways and adaptive response.	Choices, coping, and learning plans.	Policy, strategy, and resource allocation.	Economic policy and long-term planning.	Adaptive cycles and management strategies.
4. Behavior / Execution	Metabolism and cell division.	Observable behavior and habits.	Work processes and output.	Social behavior and institutional functioning.	Energy and nutrient flows, and emissions.

Table 1: Four-layer structure in the cell, individual, organization, society and ecosystem

This table shows how the same four functional layers can be recognized at multiple scale levels, which supports the universal claim of the Fourfold Logic[5]/World Soul meta-model.

It thus becomes clear that the four-layer/Fourfold Logic scheme is not only applicable psychologically and socially, but also explicitly eco-systemically, with humans as an integral part of these social-ecological systems.

With all due caution (because intention and normativity are metaphorical here), the four layers can also be recognized at the physical–molecular level as functional structures:

Layer / Function	Atom	Molecule (Chemical)	Biomolecule (Biological)
1. Purpose / "Intention"	Stable electron configuration and preservation of identity.	Formation of stable bonds and minimum free energy.	Specific function (DNA storage, catalysis, signaling).
2. Norms /	Quantum states and	Bond angles, polarity,	Structural constraints

5 See my series on the Fourfold Logic, where these ideas are developed

Layer / Function	Atom	Molecule (Chemical)	Biomolecule (Biological)
Boundaries	shells (allowed configurations[6]).	and charge.	(folding patterns) and binding sites.
3. Strategy / "Planning"	Preferred reactions (e.g., redox) based on environment.	Reaction mechanisms and transition states.	Allostery, cooperativity, and interaction networks.
4. Behavior / Execution	Formation of ions and emission of photons.	Concrete reacting, dissolving, or aggregating.	Catalysis, signal transduction, and energy transport.

Table 2: Four-layer structure extended with atom, molecule, biomolecule

In this way, the World Soul/Fourfold Logic scheme uses the same functional layers, but translates them into physical and biochemical terms: from “goal/intention” to stable configurations and function, from “norms/boundaries” to quantum and bonding rules, and so on.

Examples of molecular processes with social implications:

There are various well-studied molecular processes that clearly have social implications, via behavior, relationships and institutions.

Neurohormones and social bonding

Oxytocin influences trust, empathy, attachment, parental care and prosocial behavior; disturbances are associated with, among other things, anxiety disorders, autism and addiction.
Oxytocin works closely together with dopamine in the reward system, whereby social interactions (love, friendship, cooperation, but also consumption behavior) can be strengthened or weakened.

Serotonin, social influence and hierarchy

Serotonin plays a role in mood, impulse control and social adjustment; changes in serotonergic transmission influence sensitivity to social influence and conformity.
Research shows that specific neurotransmitters (serotonin, dopamine, oxytocin) together determine how people respond to social feedback, with implications for culture, group pressure and leadership.

Epigenetics of social conditions

Social experiences (e.g. parental care, abuse, poverty, war experience) can cause epigenetic changes, such as DNA methylation of stress- and serotonin-related genes.
These changes affect stress reactivity and vulnerability to depression and anxiety, and may be partly long-lasting or even transgenerational, so that social inequality literally leaves a “molecular trace”.

Microbiome – gut–brain axis and social behavior

The composition of the gut microbiome influences, via the microbiota–gut–brain axis, the production and availability of neurotransmitters (such as dopamine and serotonin), and thereby social cognition and mood.
Experiments have shown that changes in the microbiome can influence social decision-making, stress management and prosocial behavior, with possible implications for nutrition, education and health policy.

6 For example, the Pauli exclusion principle

These are concrete examples where molecular processes (neurotransmitters, epigenetics, microbiome) clearly manifest in attachment, empathy, hierarchy, conformity and mental health. From the perspective of the World Soul/Fourfold model, one can see these processes as layer-4 manifestations (behavior) based on layer-1 to 3 structures (goals, norms, regulations) at biomolecular and neurobiological level, with clear social and institutional consequences.

The above considerations show the interconnectedness of all life. Somato-psychological disorders are an example of this. Malfunctioning individuals can affect society on a local, or even global scale (think of the Bully as a leader). I leave it here for others to formulate specific hypotheses that can be tested.

Introduction to appendix A & Theoretical Framework

Outline of a research proposal on ego development and VSM

(elaborated in Appendix A)

Note: the research proposal that follows below (appendix A) is something others can take up. The author is not personally engaged in developing scales for characteristics of the VSM subsystems S2–S5. However, others have been working on the cybernetic side of personality development (see, for example, DeYoung's (2015) Cybernetic Big Five Theory (CB5T)). Further note, that my World Soul metamodel is not mechanistic but organistic, as one can clearly see when studying it.

1.1 Introduction: The Cybernetics of the Self

The study of adult development has long been dominated by stage theories of ego development, most notably the work of Jane Loevinger and Susanne Cook-Greuter. While these models excel at describing *what* changes in an individual's meaning-making process, they often lack a functional explanation of *how* these changes are structurally organized. This research proposes a synthesis between **Ego Development Theory (EDT)** and the **Viable System Model (VSM)**. By viewing the ego as a "viable system," we can map the transition between stages to the activation of specific cybernetic functions, leading to increased autonomy and systemic viability.

1.2 Theoretical Foundation: Cybernetic Psychology

The conceptual bridge between ego development and cybernetic structure is anchored in the integration of **DeYoung's (2015) Cybernetic Big Five Theory (CB5T)** and the **World Soul meta-model (Euser, 2025)**. DeYoung provides the empirical foundation by demonstrating that personality is not a static set of traits, but a dynamic hierarchy of cybernetic control systems designed for goal-directed regulation. He posits that human behavior is organized through feedback loops—encompassing goal setting, environmental scanning, and action regulation—which aligns seamlessly with the structural functions of the VSM.

1.3 The Architecture of Vertical Growth

While DeYoung establishes the general principle of the "cybernetic self," the VSM allows for a precise mapping of the regulatory systems activated at each stage of development:

- **Conventional Stages (E3-E4):** Self-regulation is primarily focused on the stable execution of daily routines and social coordination (**System 2**).
- **The "Turn" to System 3:** The transition to the **Conscientious stage (E5-E6)** marks a fundamental shift known as the **"Turn."** This is the activation of autonomous **Internal Management (System 3)**, where the individual shifts from reacting to external norms to proactive self-monitoring based on internalized standards.
- **Post-conventional Architecture (E7+):** At higher stages, the system is completed by **System 4 (Strategy)**—proactive environmental scanning—and **System 5 (Policy)**. The latter manifests as **"policy reflection,"** the deliberate and conscious revision of one's identity and core values.

Appendix A

Ego Development and Internal Cybernetic Architecture: Testing a Fourfold Logic/Viable System Model Interpretation of Loevinger's Stages

Abstract

Loevinger's ego development theory describes a sequence of increasingly complex meaning-making structures, but says little about the underlying organization of self-regulation that makes these structures possible. A recent metamodel (Fourfold Logic, World Soul model) proposes that ego stages instantiate a deeper sevenfold developmental arc, which can be formalized using Stafford Beer's Viable System Model (VSM): routines (System 2), internal management (System 3), strategy (System 4) and policy/identity (System 5) emerge in a lawful order. This study investigates whether higher ego stages are systematically associated with more differentiated, layered self-regulation patterns consistent with a personal VSM architecture. One hundred eighty adults will complete the Washington University Sentence Completion Test (WUSCT) and a newly developed VSM-Self-Regulation Inventory, and participate in a semi-structured interview. It is hypothesized that (a) higher ego stages show stronger differentiation between S2–S5 functions, (b) the Conformist/Self-Aware → Conscientious transition coincides with a qualitative "Turn" toward internalized System-3-like self-management, and (c) post-conventional stages show more explicit "policy reflection" (conscious review of values and life direction). The findings will provide an empirical test of the proposed link between ego development and cybernetic self-organization.

Background

Loevinger's model and its extensions by Cook-Greuter and Kegan describe vertical development of the ego as progression through stages such as Conformist, Self-Aware, Conscientious, Individualistic, Autonomous and Integrated, each reflecting qualitatively different structures of meaning-making. Higher stages are associated with increasing capacity for perspective-taking, complexity, and tolerance of ambiguity, and are typically assessed with the Washington University Sentence Completion Test.

The World Soul metamodel argues that ego stages are one instantiation of a more general sevenfold developmental arc (Purpose, Order, Form, Integration, Clarity, Association, Fulfilment) that appears

across psychological, biological and organizational domains. In the psychological domain, this arc can be mapped onto Beer's Viable System Model (VSM), which specifies five core subsystems required for viability: System 1 (operations), System 2 (coordination), System 3 (internal management), System 4 (intelligence/strategy), and System 5 (policy/identity). The metamodel predicts that as the ego develops, people build increasingly explicit and differentiated internal equivalents of these subsystems (habits/protocols as S2, self-monitoring and resource allocation as S3, future-oriented scanning and planning as S4, and explicit values and identity as S5).

While theoretical mappings between Loevinger's stages and the sevenfold arc/VSM have been elaborated, they remain largely conceptual. Empirical work has not yet directly tested whether people at higher ego stages actually exhibit more layered, VSM-like self-regulation architectures in daily life. Demonstrating such a relationship would both (a) strengthen the structural interpretation of ego development, and (b) provide a more operational handle on "complexity" in higher stages.

Theoretical integration: ego stages and VSM architecture

The World Soul metamodel proposes that the vertical development of the ego runs parallel to the coming online of increasingly complex cybernetic subsystems. Whereas Loevinger's model focuses on meaning-making, the Viable System Model (VSM) provides a structural framework for the underlying self-regulation.

Conformist and Self-Aware stages (E3–E4): At these levels, self-regulation is primarily oriented toward the stable execution of daily routines (System 2). The standards for behaviour and coordination depend largely on external norms and social expectations.

The transition to Conscientious (E5–E6): This stage marks a qualitative shift, the "Turn", in which an internal management (System 3) is activated. The focus shifts toward deliberate self-monitoring, managing personal energy and time, and resolving conflicts based on one's own, internalized standards.

Post-conventional stages (E7+): At the highest stages (Individualistic, Autonomous and Integrated), the architecture is completed through the explicit deployment of strategy (System 4) and policy (System 5).
System 4 (Strategy): Manifests as future-oriented scanning and proactively adapting life goals to a changing environment.
System 5 (Policy/Identity): Becomes visible through "policy reflection": the continual and conscious revision of core values and one's own identity in relation to the outside world.

Methods

Design

Cross-sectional mixed-methods study combining psychometric assessment and qualitative interviews. Ego stage will be used to define three groups (lower, middle, higher), which will be compared on VSM-like self-regulation measures and narrative indicators of a "Turn" and policy reflection.

Participants

Target N = 180 adults, aged 25–70.
Recruitment from general population settings (community centres, primary care, local organizations) and contexts where higher stages are expected (psychotherapists, coaches, integral/spiritual communities).
Inclusion: sufficient command of the study language and minimum secondary education.
Exclusion: severe current psychiatric disturbance that would compromise testing or interviewing.

Measures

Ego development
Washington University Sentence Completion Test (WUSCT), scored according to

Loevinger/Cook-Greuter guidelines. Participants will be assigned to stage categories: lower (e.g. E3–E4), middle (E5–E6), higher (E7+), based on standard scoring rules.

VSM-Self-Regulation Inventory (VSM-SRI; new)

A Likert-type self-report scale with four main subscales, derived from VSM concepts:
System 2 – Routines & coordination: Items on stable habits, daily protocols, and conflict-reducing routines.
System 3 – Internal management ("inside & now"): Items on self-monitoring, managing energy/time, and resolving conflicting demands.
System 4 – Strategy & intelligence ("outside & then"): Items on scanning the environment, long-term planning, and adapting goals to future trends.
System 5 – Policy/identity & adaptive information control: Items on clarity of core values and life purpose, frequency of explicit value/goal revision, and conscious selection of information sources.
The instrument will be piloted (N ≈ 20) for clarity and internal consistency before the main study.

Linking VSM-SRI subscales to ego development

The newly developed VSM-Self-Regulation Inventory (VSM-SRI) measures the presence and differentiation of internal regulation systems. The table below shows how scores on these subscales are expected to correlate with specific stages of the WUSCT:

VSM subscale | Focus of measurement | Related ego stage | Expected behavioural characteristics
System 2 (Routines) | Stable habits and daily protocols | Conformist (E3–E4) | Strong focus on following existing rules and social coordination.
System 3 (Management) | Self-monitoring and effective allocation of energy | Conscientious (E5–E6) | The "Turn": shift toward self-chosen goals and internal standards.
System 4 (Strategy) | Future-oriented scanning and adaptive planning | Post-conventional (E7+) | Proactive adjustment of life course based on environmental factors.
System 5 (Policy) | Reflection on values and conscious information control | Post-conventional (E7+) | Explicit re-evaluation of personal identity and life philosophy.

Semi-structured narrative interview

A 45–60 minute interview focusing on:
– A major life decision
– A significant crisis or conflict
– A period of re-orientation (e.g. career change, existential shift)

Interviews will be transcribed and coded by trained raters (blind to WUSCT stage) on:
– External vs internal locus of norms and standards
– Presence of a "Turn" (explicit narrative of shifting from externally driven to internally grounded regulation)
– Policy reflection (explicit re-articulation of core values and long-term direction based on experience).

Procedure

- Informed consent and demographic data collection.
  – Administration of the WUSCT (paper or secure online).
  – Completion of the VSM-SRI.
  – Scheduling and conducting the narrative interview (audio-recorded, later transcribed).
  – Independent WUSCT scoring and assignment to ego-stage groups.

– Independent coding of interview transcripts for Turn and policy reflection; inter-rater reliability will be assessed.

Data analysis

Quantitative analyses

– One-way ANOVAs (or linear models) with ego-stage group (low/mid/high) predicting VSM-SRI subscale scores; post-hoc tests with correction for multiple comparisons.
– Pearson correlations between continuous WUSCT ratings and each VSM-SRI subscale.
– Multiple regression models predicting S3, S4 and S5 scores from ego stage, controlling for age, education, and gender.

Qualitative and mixed-methods analyses

– Thematic analysis of Turn and policy-reflection codes across ego-stage groups.
– χ^2 tests or logistic regression models to examine the association between ego-stage category and the presence of a Turn narrative and/or strong policy reflection.
– Convergent mixed-methods integration to compare quantitative self-report patterns with qualitative narrative structures.

Expected correlations and statistical relationships

To validate the structural integration between ego development and cybernetic self-regulation, the following statistical relationships are expected:

- S3–S5 progression: A significant positive correlation is expected between continuous WUSCT scores and the S3 (Internal Management), S4 (Strategy) and S5 (Policy) subscales of the VSM-SRI.
  – The "Turn" in S3: The transition from the Conformist/Self-Aware group to the Conscientious group will be accompanied by a disproportionate increase in the S3 score, indicating the shift toward internalized self-guidance.
  – S5 as distinguishing factor: Post-conventional stages (E7+) will be statistically distinguishable from middle stages through significantly higher scores on the S5 subscale, confirming the presence of explicit policy reflection and evaluation of values.
  – S2 stability: Scores on S2 (Routines) are expected to be more stable across stages, since basic routines are preserved while higher regulatory layers are added (layering).
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Power considerations

For a medium effect size (Cohen's f = 0.25; roughly d ≈ 0.5) in a one-way ANOVA with three ego-stage groups, $\alpha = 0.05$ and power = 0.80, approximately N ≈ 159 participants are required; a sample of 180 allows for attrition and unusable data. For regression models with 4–5 predictors, the commonly recommended minimum of 15–20 participants per predictor is also satisfied. To safeguard the statistical power of the ANOVA, efforts will be made to achieve a balanced distribution across the three ego-stage categories by means of purposive sampling in specific subpopulations.

Expected Results

It is expected that:

– Higher ego-stage groups (especially Conscientious and above) will show significantly higher scores on S3, S4 and S5 subscales than lower-stage groups (Conformist/Self-Aware), indicating more differentiated internal management, strategy and policy layers.

– The transition from Conformist/Self-Aware to Conscientious will be associated with a higher frequency of Turn narratives: participants explicitly describing a shift from externally driven behaviour (conformity to norms and expectations) to internally organized self-management based on personal standards.
– Post-conventional stages (Individualist, Autonomous, Construct-aware) will show the highest levels of explicit policy reflection, including regular re-evaluation of values and life goals and sophisticated adaptive information control (selective use of information in light of a self-authored framework).

Such findings would support the claim that ego development involves not only richer meaning-making, but also a structural reorganization of self-regulation into a more "viable system"-like architecture. Conversely, if no systematic relationships are found, or if VSM-like patterns are evenly distributed across ego stages, this would challenge the structural predictions of the World-Soul/VSM metamodel.

Integration of quantitative and qualitative data

The strength of this study lies in the convergence of two data streams to demonstrate the cybernetic architecture of the individual:

Validation of the "Turn": When the statistical data show a significant increase in System 3 (S3) scores at the transition to the Conscientious stage, this is qualitatively supported by the "Turn" narratives from the interviews. A participant who scores high on S3 items (such as self-monitoring and energy management) should, in the interview, explicitly describe how they have moved from externally imposed rules to internally grounded self-guidance.

Manifestation of policy reflection: High scores on the System 5 (S5) subscale (values and identity) in post-conventional participants are linked to the presence of policy reflection in their life stories. The quantitative data show the frequency of value-evaluation, whereas the interview transcripts reveal the depth and the "sophisticated adaptive information control" that characterizes these higher stages.

Structural reorganization: By combining both methods, the study can demonstrate that ego development is not only a change in what a person thinks, but a fundamental reorganization of how a person governs themselves, comparable to the layering of a Viable System.

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